"A Study To Assess The Factors Associated With Drug Adherence Among Post Myocardial Infarction Patient's Attending Cardiology OPD, SVIMS, Tirupati".

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Abstract:
Background: *Myocardial infarction is a life threatening cardiovascular disease worldwide. Medication are the primary tools used to prevent and effectively manage chronic illnesses; however, despite their importance and known benefits, appropriate medication use remains a challenge for both patients and providers. Along with the treatment of such patients equally important is their follow – up and medications adherence to curtail the probability of recurrence of Myocardial infarction.*
Objectives: *1.To assess the factors associated with the drug adherence among post myocardial infarction patient's. 2. To determine the association between factors associated with the drug adherence with selected demographic variables among post myocardial infarction patient's.*
Materials and method: *The research design selected for the present study was Exploratory descriptive design.The study was conducted in cardiology OPD SVIMS hospital, Tirupati, A.P. A total of 150 MI patients were selected by purposive sampling*
Results: *The study findings showed that majority 46.7 % (70) had low adherence, 27.3 % (41) had medium adherence, 26% (39) had high adherence among post Myocardial Infarction Patients. Total Mean adherence score was 27.83 ± 8.109. A statistically association(p<0.05 and p< 0.01) was found between selected demographic variables with the level of adherence on factors associated with drug adherence.*
Conclusion: *The study findings revealed that a majority of post myocardial infarction patients(46%) were having low adherence on factors associated with drug adherence. So incorporating patient education and counselling on usage of drugs, diet, exercises and lifestyle modifications, routine follow up may improve adherence, and ultimately reduces the complications associated with low adherence / poor adherence.*
Key words: *Cardiovascular diseases, Myocardial infarction , medication adherence, drug adherence.*

I.   Introduction:

"Myocardial infarction came from **Latin** word **Infarcire,** meaning to plug up (or) cram"[1]. It is focuses on the myocardium (the heart muscle) and the changes that occur due to the sudden deprivation of circulating blood. It occurs when blood flow decreases (or) stops to a part of the heart, causing damage to the heart muscle[2]. Myocardial infarction is a type of Acute coronary syndrome; it is commonly associated with three clinical manifestations: ST elevation myocardial infarction (STEMI 30%), Non ST elevation myocardial infarction (NSTEMI, 25%), (or) unstable angina (38%) [3,4]. . On Global level, CVD is expected to grow to more than 23.6 million by 2030[5]. Several risk factors may lead to cause myocardial infarction. The risk factors are characteristics (or) conditions that are associated with a high incidence of disease. Many risk factors have been associate with myocardial infarction; they categorized as non modifiable and modifiable risk factors. Non modifiable risk factors are age, gender, ethnicity, family history, and genetics modifiable risk factors include elevated serum lipids, elevated blood pressure, tobacco use, physical inactivity obesity, diabetes, metabolic syndrome, physiologic stress, and elevated homocysteine (contributing risk factors). Patients who have had an acute myocardial infarction are at increased risk of repeated MI and death.

Patient frequently do not adhere to essential medications, resulting in poor clinical outcomes, increased cost of care and deleterious consequences from work force productivity and over all public health. The World Health Organization (W.H.O) defines adherence as, '' The degree to which a person's behaviour in taking medication, following a diet and / or executing life style changes corresponds with agreed recommendations

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from a health care provider[6]. Adherence is a multi dimensional phenomenon determined by the interaction of five sets of factors. These dimensions are:

- **Social and economic dimension.**
- **Provider—patient/ Health care system dimensions.**
- **Disease—condition related dimension.**
- **Therapy related dimension.**
- **Patient related dimension.**

Poor medication adherence is common among patients with cardiovascular disease. Studies suggest that 24% patients post cardiac event do not fill their prescriptions within 7 days of discharge and 34% of patients stop taking their medicines within one month of discharge[7].

Medication adherence is a leading issue and place a huge burden in our current health care system. In the limited resource – countries like India, the preponderance of economic instability, low literacy level, and restricted access to health care facilities might have led to the increase in incidence of medication non adherence[8]. The risk of CHD events can be significantly reduced through modification of risk factors[9,10]. A positive impact from primary prevention can be basically achieved through a reduction in high blood pressure and by correcting dyslipidemia. The benefit can be substantially increased by smoking cessation, increasing physical exercise, reduction of body weight , cessation of alcohol consumption in those patients who are compliant with the specific strategies. secondary prevention of MI in cardiac patients with surviving MI and also using the medications of beta blockers, anti platelets, ACE inhibitors, defined as the sum of all activities and rehabilitation required to favourably influence the underlying cause of the disease, as well as to achieve the best possible physical, mental and social condition[11].

NEED FOR THE STUDY: The total Global Burden of CVD in terms of disability adjusted life years (DALYs) stood at 422.7 million cases of CVD and 17.92 million CVD deaths,in 2015[12]. Approximately one fifth of the Global population resides in South – asia (India, Pakistan, Bangladesh, Nepal and Sri lanka), where patients suffer from a disproportionately high rate of CVD—related morbidity and mortality[13]. Heart disease and Stroke statistics –2017 up date; report from the American Heart Association; cardiovascular disease accounts for approximately 800,000 deaths .The incidence of myocardial infarction in India is 64.37/ 1000 people in men aged 29-69 years[14]. Readmission risk is a current challenge in health care among patients after an Acute Myocardial infarction; approximately 1 in 5 Medicare beneficiaries are readmitted within 30 days after Acute Myocardial infarction discharge.[15] Thus, medication non-adherence remains an important health problem, which is often overlooked and has been linked to increased adverse outcomes. Lack of adherence has dramatic effects on health. It is well known that non- adherence to medications and as well as life style medications and follow ups can result in recurrence of the disease.

OBJECTIVES:
1.To assess the factors associated with the drug adherence among post myocardial infarction patient's.
2.To determine the association between factors associated with the drug adherence with selected demographic variables among post myocardial infarction patient's.

NULLHYPOTHESIS:
Ho1: There is no significant difference between the factors associated with the drug adherence.
Ho2: There is no significant association between the level of adherence on factors associated with drug adherence with selected demographic variables.

II. Materials And Methods:
The Exploratory descriptive design (Non experimental design) was adopted. 150 post myocardial infarction patients were selected by using purposive sampling technique on the basis of inclusion criteria. All 150 post Myocardial Infarction patients were administered the self structured questionnaire regarding various dimensions associated with drug adherence. The data was obtained by using interview based manner. Internal consistency of the tool was established by split-half reliability method using Cronbach's alpha r= 0.87. The tool was found to be reliable.

III. Results:
In this study out of 150 post myocardial infarction patient's nearly, 46.7 % (70) had low adherence, 27.3 % (41) had medium adherence, 26% (39) had highadherence. Total Mean adherence score was 27.83 ± 8.109 for various factors associated with drug adherence among post myocardial infarction patients. The association between selected demographic variables with level of adherence among post Myocardial Infarction patients such as age, gender, marital status, place of residence, type of duration of using medication for MI, were

having association with the level of adherence on factors associated with drug adherence and significant at the level of ($p<0.05$), and type of family and habit of smoking were significant at ($p< 0.01$) level. The correlation for demographic variables on factors associated with drug adherence among post myocardial infarction patients such as age, gender, educational status, habit of smoking, co- illness were negatively correlated with the level of adherence and significant at $p< 0.001$ and $p< 0.05$ levels and place of residence, type of family, duration of using were positively correlated with the level of adherence and significant at $p<0.001$ and $p<0.05$ level. The correlation for factors associated with drug adherence among post myocardial infarction patients, all the components were positively correlated with the level of adherence and variables of medication therapy factors , patient related factors, disease related factors, health care system related factors, socio economic related factors, were significant at $p< 0.01$level and $p<0.05$ levels. The Mean variances(ANOVA) of demographic variables with level of adherence with drug adherence among Myocardial Infarction patients such as occupation, habit of alcoholism is significant at ($p< 0.05$), age, gender, educational status, place of residence, type of family, habit of smoking is significant at ($p<0.001$).

IV. Discussion:

Acute Myocardial Infarction is a clinical syndrome[61.] Readmission risk is a current challenge in health care among patients after an AMI. Medication adherence plays a crucial role in the treatment and maintenance of health of myocardial infarction patients. Pharmacological therapy is a key component of secondary prevention following acute coronary syndrome. Most efforts to understand the remarkably high rates of lack of adherence to medication have focused on patient related factors, for instance, socio economic, condition related factors, therapy related factors, and patient attitude or ability related factors. Additional factors were education, symptom severity, depression, financial status, barriers, knowledge, and self effiacy[41]. Identifying potential modifiable factors and implementation of evidence based interventions to improve adherence. The first objective of the study was to assess the factors associated with drug adherence among post myocardial infarction patients. The study findings revealed that 46.70% (70) had low adherence, 27.30% (41) had medium adherence , 26.00% (39) had high adherence. So the null hypothesis H_01 was rejected (Kuruban Ganasegeran and abdul Rashid (2017). The second objective of the study was to assess the To determine the association between factors affecting drug adherence with selected demographic variables among post myocardial infarction patient's. The study results. have shown that age, gender, marital status , place of residence , duration of using medication for MI, were having association with the level of adherence and significant at the level of ($p< 0.05$) and type of family and habit of smoking were significant at ($p< 0.01$) level. In comparison of mean variances of demographic variables with level of adherence with drug adherence among Myocardial Infarction patients, occupation, habit of alcoholism is significant at ($p< 0.05$), age, gender, educational status, place of residence, type of family, habit of smoking is significant at ($p<0.001$). So the null hypothesis $\mathbf{H_{02}}$ states that ,there is no significant association between the level of adherence on factors associated with drug adherence with selected demographic variables. So the null hypothesis $\mathbf{H_02}$ was **rejected**(Kulkarni SP et al(2006), Faezeh Jahanpour, Zahra Rafiei et. al (2015)). **Conclusion:** The study findings revealed that a majority of post myocardial infarction patients(46%) were having low adherence on factors associated with drug adherence. So incorporating patient education and counselling on usage of drugs, diet, exercises and lifestyle modifications, routine follow up may improve adherence, and ultimately reduces the complications associated with low adherence / poor adherence.

Implications:
The implications drawn for the present study is of a vital concern to health professionals including nursing practice, nursing education, nursing administration and nursing research.
Nursing practice:
The present health care system gives emphasis on comprehensive health care, which includes preventive, promotive, curative, and rehabilitative care.

- Conduct a health education campaigns concerning awareness on risk factors, manifestations , complications of Myocardial Infarction, importance of drug adherence and regular follow up
- Patients could be assessed thoroughly about the level of adherence to myocardial infarction medications and treatment by using various medication adherence scales and pill counting in the routine follow up which could be a useful resource for physicians to identify patients who are in most need of interventions to improve adherence
- The health education message could be conveyed by persons who developed complications as a result of non adherence and those who lost a loved one's as a result of Myocardial Infarction .

Nursing education:
* In nursing schools and colleges, students should be trained in planning and implementing health and education programmes depending on the needs and requirements and teaching modules should be introduced in the curriculum.
* The students should be trained in putting their efforts to reduce the myocardial infarction mortality and morbidity rate by encouraging them to participate in various national programmes. And health camps.

Nursing administration:
* The nursing administrators should take initiative to conduct effective in service education programs and continuing nursing education programs on newer trends to upgrading the knowledge of staff nurse.
* Counselling sessions can be planned for the patient's attending to the regular cardiology OPD to promote health of the individuals.

Nursing research:
* Nursing research should focuses on findings obtained from the study and identifying the various factors which are associated with drug adherence and appropriate interventions should be developed and implemented to improve the adherence level.
* The new knowledge obtained through the study would enhance evidence based nursing practice. The emphasis on research and clinical studies is needed to improve the quality of nursing care.

Recommendations:
* A longitudinal study may be conducted to assess the factors associated with drug adherence among post Myocardial Infarction patients.
* An experimental study could be conducted on interventions to improve drug adherence among post Myocardial Infarction patients.
* A quasi experimental study may be conducted on effectiveness of structured teaching programme regarding drug adherence and quality of life among post Myocardial infarction patients.

ANNEXURES

Table-1: Distribution Of Level Of Adherence Among Post Myocardial Infarction Patients.
Frequency and percentage distribution of level of adherence among post myocardial infarction patients. n= 150

S. no	Level Of Adherence	Frequency(f)	Percentage (%)
1.	Low adherence	70	46.70%
2.	Medium adherence	41	27.30%
3.	High adherence	39	26.00%
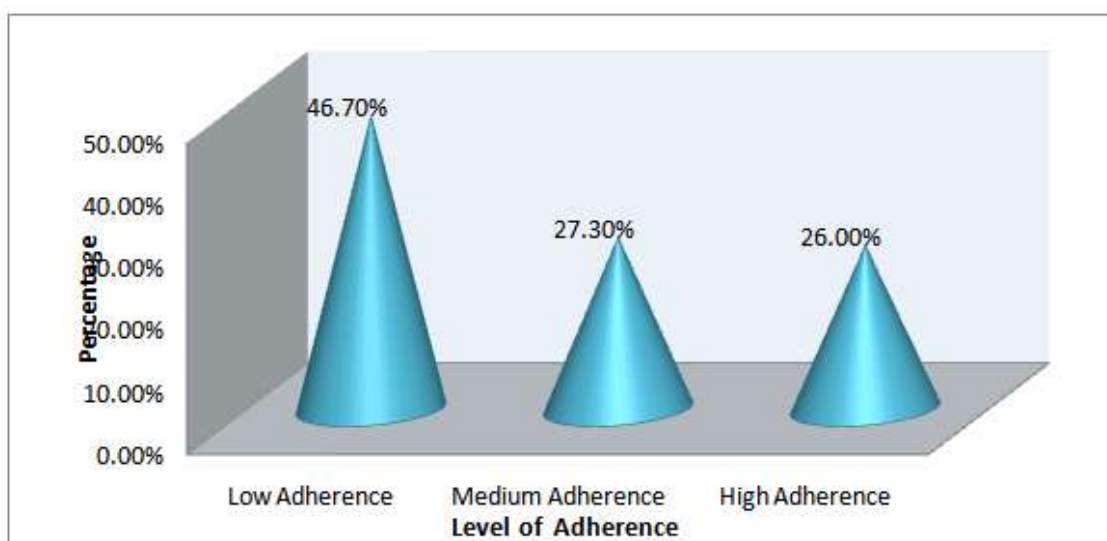
Table-2: Distribution Of Level Of Adherence On Various Aspetcs Of Factors Associated With Drug Adherence Among Post Myocardial Infarction Patients.

Frequency and percentage Distribution of level of adherence on factors associated with drug adherence among post myocardial infarction patients. n =150

S. no	Variables	Low adherence (< 21%)		Medium adherence (22—31%)		High adherence (>32%)	
		f	%	f	%	F	%
1.	Medication therapy related factors	66	44%	53	35.3%	31	20.7%
2.	Patient related factors	64	42.7%	28	18.7%	58	38.7%
3.	Disease related factors	72	48%	38	25.3%	40	26.7%
4.	Health care system related factors	70	46.7%	34	22.7%	46	30.7%
5.	Socio-economic related factors	73	48.7%	38	25.3%	39	26%

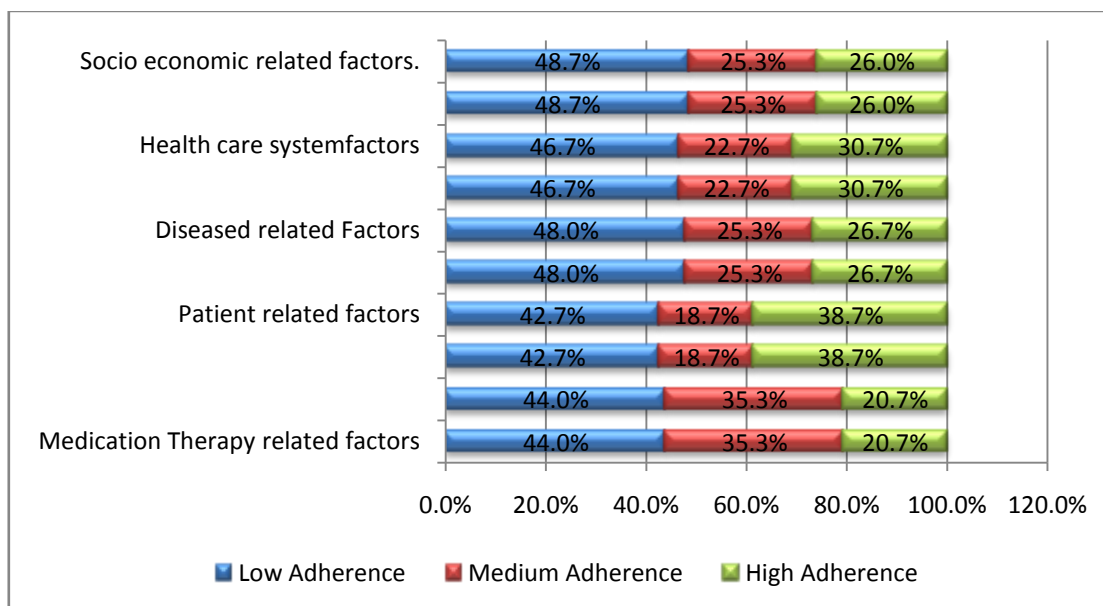**Table-3:** Distribution Of Mean And Standard Deviation For Various Factors Associated With Drug Adherence Among Post Myocardial Infarction Patients.

Mean and standard deviation for various factors associated with drug adherence among post myocardial infarction patients. n=150

Variables	Mean	Standard deviation
Medication therapy related factors	6.63	2.341
Patient related factors	5.47	1.717
Disease related factors	5.38	1.566
Health care system related factors	5.45	1.74
Socio economic related factors	4.91	1.743
Total	**27.83**	**8.109**

Table-4: Association Between Selected Demographic Variables With The Level Of Adherence On Factors Associated With Drug Adherence Among Post Myocardial Infarction Patients.

Frequency and percentage distribution of association between selected demographic variables with level of adherence.   n=150

S. No	Demographic variables	LEVEL OF ADHERENCE						Chi square χ^2	'P' value
		Low adherence (< 21%)		Medium adherence (22-31%)		High adherence (> 32 %)			
		f	%	F	%	f	%		
1	**Again in years**								
	< 40 years	5	3.3	4	2.7	7	4.7		
	<41-50years	19	12.7	12	8	12	8	15.277	0.018*
	51-60years	20	13.3	15	10	18	12		
	>60years	26	17.3	10	6.7	2	1.3		
2.	**Gender**								
	Female	9	6	11	7	14	9.3	8.143	0.017*

	Male	61	40	30	20	25	16.7		
3	**Religion** Hindu Christian Muslim	62 3 5	41 2 3	33 1 7	22 0.7 4.7	36 0 3	24 0 2	4.909	0.297 NS
4	**Marrital status** Married Un married Window/ Widower Divorced/ separated	57 -- 13 --	38 -- 8.7 --	31 -- 10 --	20.7 -- 6.7 --	38 -- 1 --	25.3 -- 0.7 --	7.730	0.021*
5	**Educational Status** Illiterate Primary education Secondary education Intermediate Graduate Post graduate	19 26 10 7 7 1	12.7 17.3 6.7 4.7 4.7 0.7	12 14 9 2 4 --	8 9.3 6 1.3 2.7 --	15 12 12 -- -- --	10 8 8 -- -- --		
6	**Occupation** Employee Self employee Un employee Home maker Retired	10 41 -- 12 7	6.7 27.3 -- 8 4.7	7 24 -- 9 1	4.7 16 -- 6 0.7	12 21 -- 6 --	8 14 -- 4 --	9.895	0.129 NS
7.	**Annual income** Rs <25,000 Rs 25,000-50,000 Rs 50,000-75,000 Rs 75,000-1,00,000 Rs >1,00,000	28 13 5 10 14	18.7 8.7 3.3 6.7 9.3	14 9 9 5 4	9.3 6 6 3.3 2.7	10 9 9 7 4	6.7 6 6 4.7 2.7	10.557	0.228 NS
8	**Place of residence** Rural Urban Semi urban	39 31 --	26 20.7 --	20 21 --	13.3 14 --	11 28 --	7.3 18.7 --	7.717%	0.021*
9.	**Type of family** Joint family Nuclear family Extended family	43 27 --	28.7 18 --	20 21 --	13.3 14 --	9 30 --	6 20 --	14.773	0.001**
10.	**Family history of MI** Yes No	35 35	23.3 23.3	19 22	12.7 14.7	25 14	16.7 9.3	2.904	0.234 NS
11	**If Yes, relationship with the patient** Parents / siblings Nephews /Nieces/ Grandparents Grate Grandparents	27 2 6	34.2 2.5 7.6	17 1 1	21.5 1.3 1.3	19 2 4	24.1 2.5 5.1	1.826	0.768 NS
12.	**Habit of smoking** Yes No	1 69	0.7 46	1 40	0.7 26	6 33	4 22	10.598	0.005 **
13.	**If yes duration of smoking** < 1 year 2 years > 2 years	1 -- --	12.5 -- --	1 -- --	12 -- --	4 1 1	50 12 12	0.889	0.926 NS
14.	**Habit of alcoholism** Yes No	7 63	4.7 42	7 34	4.7 22.7	8 31	5.3 20.7	2.473	0.290 NS
15.	**If yes duration of alcoholism** 1 year 2 years 3 years >3 years	2 3 -- 2	9.1 13.6 -- 9.1	-- 2 2 3	-- 9.1 9.1 13.6	1 4 2 1	4.5 18.2 9.1 4.5	5.696	0.458 NS
16.	**Habit of tobacco chewing** Yes No	1 69	0.7 46	-- 41	-- 27.3	-- 39	-- 26	1.151	0.563 NS
17	**If yes duration of chewing tobacco** < 1 month	1	100	-	-	-	-	0.000	1.000 NS

18	**Duration of using medication for M1**								
	< 3 years	30	20	23	15.3	8	5.3		
	4-6 years	24	16	8	5.3	17	11.3		
	7-9 years	5	3.3	4	2.7	3	2		
	>9 years	11	37.3	6	4	11	7.3	12.843	0.046*
19.	**No. of drugs taken for M1**								
	1 drug	4	2.7	2	1.3	--	--		
	2drugs	8	5.3	4	2.7	1	0.7		
	3drugs	19	12.7	6	4	11	7.3		
	4drugs	13	8.7	3	2	7	4.7	14.272	0.161 NS
	5drugs	3	2	4	2.7	5	3.3		
	6 and >6 drugs	23	15.3	22	14.7	15	10		
20.	**How often visits doctor**								
	< 3 months	54	36	33	22	26	17.3	2.569	0.032 NS
	3-6 months	9	6	4	2.7	8	5.3		
	>6 months	7	4.7	4	2.7	8	5.3		
21	**Other illness**								
	Yes	58	38.7	35	23.3	37	24.7	3.211	0.201 NS
	No	12	8.	6	4	2	1.3		
22.	**If yes co illness**								
	DM	19	14.6	17	13.1	14	10.8		
	HTN	24	18.5	13	10	23	17.7		
	DM & HTN	7	5.4	2	1.5	--	--		
	CKD	2	1.5	--	--	--	--		
	HTN & CKD	3	2.3	1	0.8	--	--		
	COPD	--	--	1	0.8	--	--	22.842	0.197 NS
	DM & CVA	--	--	1	0.50	--	--		
	DM & CKD	1	0.8	--	--	--	--		
	HTN & CVA	1	1.8	--	--	--	--		
	ARTHRITIS	1	1.8	--	--	--	--		

*= significant at 0.05 level
** = significant at 0.01 level.
NS = Not Significant

Table-5: Distribution Of Correlation For Demographic Variables On Factors Associated With Drug Adherence Among Post Myocardial Infarction Patients.
Distribution of correlation for demographic variables on factors associated with drug adherence among post myocardial infarction patients.

S. no	Demographic variables	'r' Value	'P' Value
1.	Age in years	-0.213(**)	0.009
2.	Gender	-0.295(**)	0.000
3.	Religion	0.008	0.926
4.	Marital status	-0.155	0.058
5.	Educational status	-1.65(*)	0.044
6.	Occupation	-0.018	0.823
7.	Annual income	-0.082	0.319
8.	Place of residence	0.229(**)	0.005
9.	Type of family	0.322(**)	0.000
10.	Family history of MI	-0.129	0.115
11.	If yes relationship with the family	-0.028	0.807
12.	Habit of smoking	-0.295(**)	0.000
11.	If yes duration of smoking	0.297	0.475
12.	Habit of alcoholism	-0.160	0.050
13.	If yes duration of alcoholism	0.042	0.854
14.	Habit of tobacco chewing	0.069	0.400
15.	If yes duration of tobacco chewing	.(a)	
16.	Duration of using medication for MI	0.174(*)	0.033
17.	No. Of drugs taken for MI	0.145	0.077
18.	How often visit doctor	0.043	0.599
19.	Other illness	-0.125	0.126
20.	If yes mention the co illness	-0.214	0.015

** Correlation is significant at the 0.01 level (2 tailed)
*Correlation is significant at the 0.05 level (2tailed)

Table-6: Mean Variances Of Demographic Variables Among Migrane Patients.
Table-13: Mean variances of demographic variables with level of adherence with drug adherence among Myocardial Infarction patients.

S.NO	Demographic variables	Mean	Standard deviation	F/t value	P value
1	**Age in years**				
	< 40	31.06	8.90		
	41-50	28.47	8.57		
	51-60	29-36	0.07	5.398	0.001**
	>60	23.63	5.60		
2	**Gender**				
	Female	32.24	8.26		
	Male	32.24	7.63	3.754	0.000**
3	**Religion**				
	Hindu	27.89	8.20		
	Christian	23.00	6.06		
	Muslim	28.67	7.80	0.790	0.456 NS
4.	**Marital status**				
	Married	28.38	8.32		
	Un Married	--	--		
	Widow/ widower	24.96	6.27	1.912	0.058 NS
	Divorced/ separated	--	--		
5.	**Educational Status**				
	Illiterate	29.11	8.10		
	Primary education	26.83	7.90		
	Secondary education	30.97	8.50		
	Intermediate	22.11	4.65		
	Graduate	23.82	6.00		
	Post graduate	20.00	-	3.148	0.010**
6	**Occupation**				
	Employee	30.76	8.71		
	Self employee	27.36	7.90		
	Un employee	--	--	3.686	0.013*
	Home maker	28.33	7.97		
	Retired	20.63	1.92		
7.	**Annual income**				
	< 25,0000	26.62	7.77		
	25,000-50,000	28,52	8.03	2.137	0.079 NS
	50,000-75,000	31,43	7.84		
	75,000-100000	28.55	8.55		
	>100000	25.27	8.02		
8	**Place of residence**				
	Rural	25.86	7.35	2.858	0.005**
	Urban	29.56	8.39		
	Semi urban	--			
9.	**Type of family**				
	Joint family	25.13	6.98		
	Nuclear family	30.33	8.32	4.137	0.000**
	Extended family	--	--		
10.	**Family history of MI**				
	Yes	28.82	8.48		
	No	26.73	7.58	1.584	0.115 NS
11.	**If yes relationship with the patient**				
	Parents/ sibling	28.86	8.42		
	Grandparents Nephews / nieces	30.60	10.29	0.184	0.833 NS
	Great grandparents	27.82	8.70		
12	**Habit of smoking**				
	Yes	37.88	8.01		
	No	27.27	7.76	3.755	0.000**
13.	**If yrs duration of smoking**				
	< 1 year	-	-	-	-
	2 year	-	-		
	>2 years -	-	-	-	
14	**Habit of alcoholism**				
	Yes	30.95	8.22	1.973	0.050*
	No	27.30	8.00		
15.	**If yes duration of alcoholism**				
	1 year	27.00	10.39		
	2 year	31.33	8.70		
	3 year	36.25	4.92	0.913	0.454 NS
	>3 year	28.83	8.21		
16.	**Habbit of chewing tobacco**				

	Yes	21.00	--		
	No	27.88	8.12	0.845	0.400 NS
17	**If yes duration of chewing tobacco**				
	<1 month	--	--	--	--
18	**Duration of using medication for MI**				
	<3 years	26.30	6.86		
	4-6 years	28.27	8.89		
	7-9 years	28.25	7.79	1.638	0.183 NS
	>9 years	30.25	9.01		
19	**No. of drugs taken for MI**				
	1 drug	23.67	5.43		
	2 drugs	25.23	6.92		
	3 drugs	27.44	8.54		
	4 drugs	27.52	9.87		
	5 drugs	31.08	7.79		
	6 and >6drugs	28.52	7.54	1.082	0.373 NS
20	**How often visits doctor**				
	<3 months	27.53	8.01		
	3-6months	29.43	8.76		
	>6 months	27.88	8.25	0.482	0.619 NS
21.	**Other illness**				
	Yes	28.23	8.19		
	No	25.25	7.23	1.537	0.126 NS
22.	**If yes co illness**				
	DM	29.12	7.84		
	HTN	29.37	8.68		
	DM & HTN	21.89	4.99		
	CKD	22.75	4.19		
	HTN & CKD	22.75	4.19		
	COPD	31.00	0.00		
	DM & CVA	32.00	0.00		
	DM & CKD	20.00	0.00	1.637	0.112 NS
	HTN & CVA	19.00	0.00		
	ARTHRITIS	21.00	8.19		

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